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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,530	09/29/2000	Michael F. Angelo	1662-28400 (P99-2550)	1588

22879 7590 07/01/2004

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EXAMINER

CARTER, AARON W

ART UNIT	PAPER NUMBER
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2625

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DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/675,530

Applicant(s)

ANGELO ET AL.

Examiner

Aaron W Carter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-27 is/are allowed.
- 6) ☒ Claim(s) 1-15 and 28-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 14, 2004 has been entered.

Response to Arguments

2. Applicant's arguments, see paper number 10, page 11, filed April 14, 2004, with respect to claims 16 and 25 have been fully considered and are persuasive. The 35 103(a) rejections of claims 16 and 25 have been withdrawn.

Applicant's arguments with respect to claims 1-15 and 28-37 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 33-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 33 recites the limitation "the banded regions" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Examiner will interpret the claims as though the marked phrase "DSP is configurable to detect" was left in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-15 and 28-40 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 5,963,656 to Bolle et al. ("Bolle").

6. As to claims 1-15 and 28-40, please keep in mind the following excerpt from the MPEP 2114

Apparatus and Article Claims — Functional Language

For a discussion of case law which provides guidance in interpreting the functional portion of means-plus-function limitations see MPEP § 2181 - § 2186.

APPARATUS CLAIMS MUST BE STRUCTURALLY DISTINGUISHABLE FROM THE PRIOR ART

>While features of an apparatus may be recited either structurally or functionally, claims directed to >an< ***apparatus must be distinguished from the prior art in terms of structure rather than function.*** >In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because

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the limitations at issue were found to be inherent in the prior art reference); see also *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). “[A]pparatus claims cover what a device is, not what a device does.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original).

MANNER OF OPERATING THE DEVICE DOES NOT DIFFERENTIATE APPARATUS CLAIM FROM THE PRIOR ART

A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (The preamble of claim 1 recited that the apparatus was “for mixing flowing developer material” and the body of the claim recited “means for mixing ..., said mixing means being stationary and completely submerged in the developer material”. The claim was rejected over a reference which taught all the structural limitations of the claim for the intended use of mixing flowing developer. However, the mixer was only partially submerged in the developer material. The Board held that the amount of submersion is immaterial to the structure of the mixer and thus the claim was properly rejected.).

7. As to claim 1, Bolle discloses a computer system comprising:

A biometric device (Fig. 7, element 780) configured to transmit images;

An interface coupled to the device (Fig. 7, element 710) to receive the transmitted images;

Since claim 1 is an apparatus claim, Bolle meets the above claimed limitations because the claim is not distinguished from Bolle in terms of structure. The fact that the functionality of Bolle is different from that of claim 1 is irrelevant because per MPEP 2114 an apparatus claims cover what a device is, not what it does.

As to claims 2-7, please refer to rejections made for claim 1 above.

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As to claim 8, Bolle discloses the computer system of claim 1, wherein the biometric device is a fingerprint scanner (column 5, line 19) configured to transmit images of fingerprint.

As to claims 9-12, please refer to rejections made for claim 1 above.

As to claim 13, Bolle discloses the computer system of claim 1, wherein the interface connects to an expansion slot (Fig. 7, element 780), and wherein the computer system further comprises:

A system memory (column 4, lines 65-67) configured to store software.

A processor coupled to the system memory (column 4, lines 58-59) and configured to execute the software, wherein the processor is further coupled to the interface, wherein the software configures the processor to initiate operation of the interface and biometric device.

As to claim 14, please refer to rejections made for claim 13 above.

As to claim 15, Bolle discloses the computer system of claim 13, wherein the computer system further comprises:

A network interface coupled to a network login server (Fig. 7, element 786 and column 5, lines 23-28), wherein the network login server is configured to receive a template from the interface, and wherein the network login server is configured to compare the template to a stored template.

As to claim 28, Bolle discloses a system comprising:

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A camera (Fig. 7, element 760); and

A digital signal processor (DSP) coupled to the camera (Fig. 7, elements 750 and 715).

As to claims 29-37, please refer to rejections made for claim 28 above.

As to claim 38, Bolle discloses a system comprising:

A biometric device comprising a scanner (Fig. 7, element 765) that scans a series of images at a predetermined rate; and

A processor coupled to the biometric device (Fig. 7, element 715);

As to claims 39 and 40, please refer to rejections made for claim 38 above.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,292,576 to Brownlee in view of USPN 6,674,902 to Kondo et al. ("Kondo").

As to claim 28, Brownlee discloses a system comprising:

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A camera (column 2, lines 38-39, wherein imaging device corresponds camera); and

A digital signal processor (DSP) coupled (column 1, lines 13-21, Fig. 1, element 113 and Fig. 5, element 515, wherein it is inherent that a digital signal processor is present) to the camera, wherein the DSP is *configurable* to capture a plurality of image frames from the camera and detect if a series of the plurality of image frames are duplicate image frames (Fig. 5, wherein the imaging device captures two images of the finger and if difference is less than threshold this indicates that little or no variation between the images, meaning that they are duplicates).

Brownlee does not disclose expressly wherein the DSP is further *configurable* to determine a most common grayscale value of pixels for each pixel line of an image and detect when at least one pixel line has a most common grayscale value below a predetermined threshold. However, since the applicants claim a DSP that is configurable to perform the limitation it could be said that the invention of Brownlee meets the limitation of the claim, since it is well known to those of skill in the art that DSP's in general are configurable to perform or in other words have the capability to perform a certain task if provided with the proper software. The limitation doesn't require that the DSP be configured to determine a most common grayscale of pixels only configurable.

Kondo discloses a DSP that is configurable to determine a most common grayscale value of pixels (column 18, lines 44-48, wherein the max peak of the histogram corresponds to the most common value) for each pixel line (column 18, lines 33-36 and 44-48, wherein proximity area corresponds to pixel line) of an image and detect when at least one pixel line has a most common grayscale value below a predetermined threshold (column 18, lines 44-48, wherein the max peak of the histogram is compared to a threshold).

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Brownlee & Kondo are combinable because they are from the area of image analysis and consist of DSP's that are inherently "configurable".

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add to the invention of Brownlee the process, taught by Kondo, of determining a most common grayscale value and comparing it to a threshold.

The suggestion/motivation for doing so would have been to provide an innovative function for extracting an image area (Kondo, column 2, lines 48-49).

Therefore, it would have been obvious to combine Brownlee with Kondo to obtain the invention as specified in claim 28.

As to claim 29, the combination of Brownlee and Kondo discloses the system of claim 28, Brownlee further discloses wherein the plurality of image frames comprises fingerprint images (Fig. 5, elements 503 and 507).

As to claim 30, the combination of Brownlee and Kondo discloses the system of claim 28, Brownlee further discloses wherein the duplicate image frames exhibit less than a threshold amount of variation across the series of the plurality of image frames (Fig. 5, wherein the imaging device captures two images of the finger and if difference is less than threshold this indicates that little or no variation between the images, meaning that they are duplicates).

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As to claim 31, the combination of Brownlee and Kondo discloses the system of claim 28, Brownlee further discloses wherein the DSP performs an action upon detecting duplicate image frames (Fig. 5, elements 511, 517 and 519).

As to claim 32, the combination of Brownlee and Kondo discloses the system of claim 31, Brownlee further discloses wherein the action comprises at least one action selected from the group consisting of aborting an image frame acquisition process and reporting a failure (Fig. 5, elements 511, 517 and 519).

11. Claims 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brownlee and Kondo as applied to claims 28-32 above, and further in view of USPN 5,987,156 to Ackland et al. ("Ackland").

As to claim 33, the combination of Brownlee and Kondo discloses the system of claim 28, but neglects to explicitly disclose wherein the DSP is configurable to detect banded regions in an image frame. However, Ackland discloses a DSP that is configurable to detect banded regions in an image frame (column 4, lines 49-55, wherein derivation in pixel intensities, which causes bands as seen in fig 3, are determined). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the system disclosed by Brownlee and Kondo with the band detection system disclosed by Ackland. This provides the invention with the locating and correcting band regions in a fingerprint image, eliminating the confusion in extracting relevant features for verification purposes (column 1, lines 38-42).

As to claim 34, the combination of Brownlee, Kondo and Ackland disclose the system of claim 33, Ackland further discloses wherein the DSP detects banded regions in image frame by detecting if more than a predetermined amount of grayscale variation exists (column 4, lines 32-36 and Fig. 5).

As to claim 35, the combination of Brownlee, Kondo and Ackland disclose the system of claim 33, Ackland further discloses wherein the DSP detects banded regions in an image frame by detecting lines across the image frame, wherein the lines have at least a predetermined width (column 3, lines 40-43 wherein the sensing elements form a column which corresponds to a straight line and they each have the same predetermined width and in column 4, lines 49-55, it is determined if the straight lines are variant from the other straight lines in the image, see also figure 3).

As to claim 36, the combination of Brownlee, Kondo and Ackland disclose the system of claim 33, Ackland further discloses wherein the DSP performs an action if a banded region is detected (column 1, lines 52-60, the corrective gain and offset are determined).

As to claim 37, the combination of Brownlee, Kondo and Ackland disclose the system of claim 36, Ackland further discloses wherein the action comprises at least one action selected from the group consisting of aborting an image frame acquisition process and reporting a failure (column 4, lines 49-55, wherein derivation in pixel intensities, which causes bands as seen in fig

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3, are determined, wherein it is implied that the determination of the bands sends a failure report causing corrective measures).

Allowable Subject Matter

10. Claims 16-27 are allowed.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 5,519,785 to Hara discloses streak detection.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron W Carter whose telephone number is (703) 306-4060. The examiner can normally be reached on 7am - 3:30 am (Mon. - Fri.).

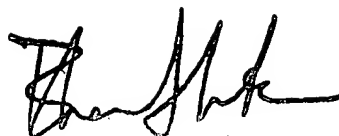
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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